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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,479	09/29/2000	Barry Huston Meyrick	PM-271586 SM	7070

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EXAMINER

SHOSHO, CALLIE E

ART UNIT PAPER NUMBER

1714

DATE MAILED: 01/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

1. D-6

Office Action Summary

Application No.

09/647,479

Applicant(s)

MEYRICK ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 11/2/01.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-3 and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 732381, alone, or alternatively, in view of Lent et al. (U.S. 5,837,042).

The rejection is adequately set forth in paragraph 5 of the office action mailed 8/8/01, Paper No. 4, and is incorporated here by reference

4. Claims 1-2, 4-6, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knable et al. (U.S. 4,532,276) in view of Lent et al. (U.S. 5,837,042).

The rejection is adequately set forth in paragraph 6 of the office action mailed 8/8/01, Paper No. 4, and is incorporated here by reference.

5. Claims 1-4, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batlaw et al. (U.S. 5,429,841) in view of Lent et al. (U.S. 5,837,042).

The rejection is adequately set forth in paragraph 8 of the office action mailed 8/8/01, Paper No. 4, and is incorporated here by reference.

Response to Arguments

6. Applicants' arguments regarding Yang et al. (U.S. 5,825,391) have been considered but are moot in view of the discontinuation of this reference as applied against the present claims.

7. Applicants' arguments filed 8/8/01 have been fully considered but they are not persuasive.

Specifically, applicants argue that:

(a) The comparative data on pages 12-14 of the present specification establishes the criticality of the weight average molecular weight of the polyurethane.

(b) No explicit disclosure of mixture water-miscible and water-immiscible solvents in EP 732381.

(c) Neither Knable et al. nor Batlaw et al disclose ink jet ink as presently claimed.

(d) Neither Knable et al. nor Batlaw et al. disclose water-dissipatable polyurethane as presently claimed.

(e) Lent et al. do not disclose water-dispersible polyurethane.

With respect to argument (a), it is noted that the comparative data found on pages 12-14 of the present invention compare an ink within the scope of the present claims, i.e. comprising polyurethane with weight average molecular weight of less than 25,000 with an ink outside the scope of the present invention, i.e. comprising polyurethane with weight average molecular weight of 70,000. It is shown that the comparative ink did not fire from the ink jet printer.

However, it is the examiner's position that this data does not establish unexpected or surprising results over EP 732381 since it is well known to one of ordinary skill in the art that ink jet inks must possess proper viscosity otherwise the ink jet printer will clog. It would have been obvious to one of ordinary skill in the art that if the polyurethane present in the ink jet ink possess a molecular weight which is too high, the viscosity of the ink would also be too high, and thus, the ink jet printer would clog and not fire.

Applicants also argue that other factors such as polymer shape and type of solvent would also influence the viscosity of the ink. While this is true, it doesn't negate the fact that one of ordinary skill in the art would still recognize that controlling the molecular weight of the polyurethane present in the ink would significantly effect the resulting ink viscosity that must be controlled for the reasons described above.

Thus, in light of the above, the examiner's position remains that although there is no explicit disclosure in EP 732381 of the weight average molecular weight of the polyurethane, given the relationship between molecular weight and viscosity, i.e. as the molecular weight increases, the viscosity increases, it would have been obvious to one of ordinary skill in the art to choose polyurethane with molecular weight, including that presently claimed, in order to control the viscosity of the ink, and thereby arrive at the claimed invention.

With respect to argument (b), it is noted that EP 732381 discloses the use of solvents that include water-miscible solvent and water-immiscible solvent. In light of this, and absent evidence to the contrary, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to choose mixtures of solvents including water-miscible solvent and

water-immiscible solvent in order to control the properties of the ink such as drying time and evaporation rate, and thereby arrive at the claimed invention.

With respect to argument (c), applicants argue that one of ordinary skill in the art would not expect the inks of either Knable et al. or Batlaw et al. to work in ink jet printers. However, it is noted that present claims 1-9 do not require an ink jet ink. Present claim 1 only requires a composition while present claim 9 requires only an ink. It is noted that both Knable et al. and Batlaw et al. were not used to reject present claims 10-12 which do require an ink jet ink.

With respect to argument (d), it is noted that Knable et al. disclose an aqueous polyurethane dispersion (col.2, lines 26-27) while Batlaw et al. discloses polyurethane that is water-soluble (col.6, lines 49 and 64-66). While there is no disclosure of the weight average molecular weight of the polyurethane, this is why each of these references is used in combination with Lent et al.

With respect to argument (e), it is noted that Lent et al. teach inks, including aqueous inks, which comprise polyurethane. Lent et al. broadly discloses that the polyurethane is made from diols and diisocyanates. While none of the preferred example of diols and diisocyanates would produce a water-dissipatable polyurethane, these are just preferred examples. A fair reading of Lent et al. as a whole broadly discloses the use of polyurethane, which encompasses all types of polyurethane including water-dissipatable polyurethane.

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8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Callie Shosho
January 9, 2002




VASU JAGANNATHAN
SUPERVISOR
TECHNOLOGY OFFICE